Please add the following claims 28-30:

28. (new) An exposure apparatus provided with the stage device according to claim 2, wherein the plurality of movable stages are made of ceramic.--

29. (new) An exposure apparatus provided with the stage device according to claim 2, wherein the first measurement system is capable of emitting a measurement beam to a mirror of each of the plurality of movable stages.--

30. (new) An exposure apparatus provided with the stage device according to claim 19, further comprising a plurality of position detection systems, the plurality of position detection systems detecting a position of the substrate that is placed on each of the plurality of movable stages.--

## REMARKS

Claims 1-30 are pending. By this amendment, claims 2, 4-8 and 17-20 are amended, and claims 28-30 are added. The amendments to claims 2, 4-8 and 17-20 improve their grammar, and do not narrow those claims. The attached Appendix includes a marked-up copy of each rewritten claim (37 C.F.R. 1.121(c)(1)(ii)).

No new matter is added by claims 28-30. For example, claim 28 is supported at, e.g., page 57, lines 6-7; claim 29 is supported at, e.g., page 61, line 21 - page 62, line 2; and claim 30 is supported at, e.g., page 82, line 23 - page 83, line 22.

Claims 10-15 and 24 stand rejected under 35 U.S.C. §102(e) over U.S. Patent No. 5,784,166 to Sogard. In particular, the Office Action refers to Fig. 4 and cols. 10-11 of Sogard. This rejection is respectfully traversed.

Sogard is not relevant to independent claim 10 or its dependent claims. Sogard does not disclose or suggest an interferometer system having a plurality of measurement axes disposed such that "even if one of the plurality of measurement axes diverges from the movable stage, the amount of displacement can still be measured by another measurement axis." As disclosed, for example, at col. 10, lines 33-34 and col. 10, lines 42-44, the reticle

and wafer stages move in the direction parallel to the axes of the illustrated interferometer systems 38 and 46, and therefore all axes of the interferometer systems remain on the movable stages.

Thus, Sogard also clearly does not disclose or suggest the claim 10 signal processing system with which "when the one measurement axis changes from the state of diverging to a state of irradiating the movable stage, a degree of interference of the one measurement axis is estimated from a measurement result for the another measurement axis, and an initial value of the one measurement axis is set on the basis of the estimated degree of interference and a phase measured with the one measurement axis." The "predicted present position" discussed at column 11 of Sogard is totally different from the claim 10 estimated degree of interference, and is not estimated when the one measurement axis changes from the state of diverging to a state of irradiating the movable stage, as recited in claim 10.

Claims 1-9, 16-23 and 25-27 stand rejected under 35 U.S.C. §103(a) over U.S. Patent No. 3,941,480 to Webster et al. This rejection is respectfully traversed.

The Office Action appears to assert that the measurement A from interferometer 62 is corrected to be A1 based on the output of interferometer 64. Applicants respectfully disagree. Although Webster et al. uses the outputs of interferometers 62 and 64 to produce a measurement value (e.g., A1), that measurement value is not a corrected measurement value. In other words, Webster et al. does not disclose or suggest that the measurement value A is corrected to be A1. The value A1 is simply a new distance which differs from the distance A that was measured at a different time. See, e.g., col. 6, lines 15-20 and col. 6, lines 46-54 of Webster et al.

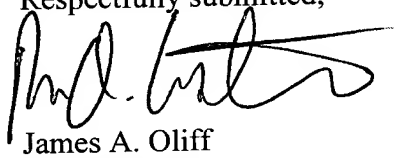
Regarding independent claim 1, Webster et al. does not disclose or suggest the claimed second measurement system that measures an amount of positional deviation...from a predetermined reference position, or a degree of coincidence... with respect to the reference position. There is no predetermined reference position in Webster et al.

Regarding independent claim 2, Webster et al. does not disclose or suggest a second measurement system that continuously measures positions of the plurality of stages within a second measurement range partially overlapping the first measurement range of the first measurement system. As shown in Fig. 3, and described at col. 4, lines 26-46, interferometers 62 and 64 (66 and 68) cooperate with mirrors 60 and 56 (54 and 58) respectively to produce coaxial distance measuring light beams 70 and 72 (78 and 80). The measurement ranges of interferometers 62 and 64 (66 and 68) entirely overlap.

In view of the foregoing, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,



James A. Oliff
Registration No. 27,075

Mario A. Costantino
Registration No. 33,565

JAO:MAC/ccs

Enclosures:
Appendix
Amendment Transmittal

Date: July 10, 2001

**OLIFF & BERRIDGE, PLC**
**P.O. Box 19928**
**Alexandria, Virginia 22320**
**Telephone: (703) 836-6400**

DEPOSIT ACCOUNT USE AUTHORIZATION
Please grant any extension necessary for entry;
Charge any fee due to our Deposit Account No. 15-0461

APPENDIX

Changes to Claims:

Claims 2, 4-8 and 17-20 are amended.

The following is a marked-up version of each amended claim:

2. (Amended) A stage device, comprising:

a plurality of movable stages disposed in a certain movement plane so as to be movable independently of each other;

a first measurement system which measures within a first measurement range a position of one of the plurality of movable stages;

a second measurement system which continuously ~~measuring~~ measures positions of the plurality of movable stages within a second measurement range partially overlapping the first measurement range; and

a control system which corrects the measurement results of the first and second measurement systems on the basis of the measurement results of ~~these two~~ the first and second measurement systems.

4. (Amended) An exposure apparatus provided with the stage device according to claim 1, wherein masks on which mutually different patterns are formed are placed on the plurality of movable stages of the stage device, and the patterns of the ~~mask~~ masks on the plurality of movable stages are alternately transferred onto a substrate while being positioned.

5. (Amended) An exposure apparatus provided with the stage device according to claim 1, wherein a mask is placed on a first movable stage among the plurality of movable stages of the stage device, a characteristic measurement apparatus which measures characteristics in transfer of a pattern of the mask is placed on ~~the~~ a second movable stage of the plurality of movable stages, and the pattern of the mask is transferred onto a substrate.

6. (Amended) An exposure apparatus provided with the stage device according to claim 1, wherein a substrate is placed on each of the plurality of movable stages of the stage device, and the plurality of substrates are alternately exposed with mask patterns while the plurality of movable stages are alternately positioned at ~~a~~ an exposure position.

7. (Amended) An exposure apparatus provided with the stage device according to claim 1 and a projection optical system,

wherein a substrate is placed on ~~the~~ a first movable stage of the plurality of movable stages of the stage device, a characteristic measurement apparatus which measures imaging characteristics of the projection optical system is placed on ~~the~~ a second movable stage of the plurality of movable stages, and the substrate on the first movable stage is exposed with a mask pattern via the projection optical system.

8. (Amended) A positioning method that makes use of the stage device according to claim 1, wherein when one of the plurality of movable stages enters the measurement range of the first measurement system, the amount of positional deviation of the one movable stage from the reference position within the measurement range, or the degree of coincidence of the one movable stage with respect to ~~this~~ the reference position, is measured by the second measurement system, and a measurement value obtained with the first measurement system is corrected on the basis of a measurement result of the second measurement system.

17. (Amended) An exposure apparatus provided with the stage device according to claim 2, wherein masks on which mutually different patterns are formed are placed on the plurality of movable stages of the stage device, and the patterns of the ~~mask~~ masks on the plurality of movable stages are alternately transferred onto a substrate while being positioned.

18. (Amended) An exposure apparatus provided with the stage device according to claim 2, wherein a mask is placed on a first movable stage among the plurality of movable

stages of the stage device, a characteristic measurement apparatus which measures characteristics in transfer of a pattern of the mask is placed on ~~the~~ a second movable stage of the plurality of movable stages, and the pattern of the mask is transferred onto a substrate.

19. (Amended) An exposure apparatus provided with the stage device according to claim 2, wherein a substrate is placed on each of the plurality of movable stages of the stage device, and the plurality of substrates are alternately exposed with mask patterns while the plurality of movable stages are alternately positioned at ~~a~~ an exposure position.

20. (Amended) An exposure apparatus provided with the stage device according to claim 2 and a projection optical system,

wherein a substrate is placed on ~~the~~ a first movable stage of the plurality of movable stages of the stage device, a characteristic measurement apparatus which measures imaging characteristics of the projection optical system is placed on ~~the~~ a second movable stage of the plurality of movable stages, and the substrate on the first movable stage is exposed with a mask pattern via the projection optical system.